

WHAT IS CLAIMED IS:

1 1. A system for network address translation and session management comprising:
2 a calling terminal connected to an external network;
3 a network address translation block for receiving a session initiation protocol message
4 transmitted from the calling terminal, performing address translation and session management for
5 the calling terminal of an internal session initiation protocol; and
6 a plurality of call agents constituting a local network with the network address translation
7 block, for being responsible for a call process.

1 2. The system according to claim 1, wherein the network address translation block translates
2 a public network address transmitted from the calling terminal, into a local network address,
3 connecting to a plurality of call agents.

1 3. The system according to claim 1, wherein the network address translation block interfaces
2 a call by selecting one call agent among a plurality of the call agents for one "INVITE" message
3 which is a call establishment request message generated from the calling terminal.

1 4. A system for network address translation and session management comprising:
2 a plurality of call agents responsible for a call process;
3 a network address translation block connected to a plurality of the call agents through a local

4 network, for performing address translation and session management for a session initiation protocol
5 message received from the call agents existing in the local network by interfacing an external
6 network; and

7 a called terminal connected to the network address translation block and an external network.

1 5. The system according to claim 4, wherein the network address translation block connects
2 to the called terminal by translating a local network address transmitted from a plurality of the call
3 agents, into a public network address.

1 6. The system according to claim 4, wherein the network address translation block interfaces
2 a call between the called terminals corresponding to one "CallID" by analyzing an "INVITE".
3 message generated from the call agents.

1 7. A method for sending a call, at a calling terminal, in a system for network address
2 translation and session management, the method comprising the steps of:

3 receiving, at a network address translation block provided between the calling terminal and
4 call agents, a call establishment request message generated from the calling terminal connected to
5 an external network, extracting a public network address from the received call establishment request
6 message, storing the public network address;

7 selecting a specific call agent among a plurality of the call agents, storing a communication
8 path for the specific call agent in session information of a relevant call; and

9 distributing traffic by transmitting a session initiation protocol message transmitted from the
10 calling terminal, to a selected call agent only, using information stored in a session of the relevant
11 call.

1 8. The method according to claim 7, wherein selection of the specific call agent in the above,
2 is made by selecting different one call agent among a plurality of the call agents for a call
3 establishment request message generated from a calling terminal.

1 9. The method according to claim 7, wherein the network address translation block at the
2 receiving step, performs the step of judging a beginning of a call when a call establishment request
3 message generated from the calling terminal connected to the external public network is received;
4 generating one session for a call using a "CallID" value, storing a public network address and a
5 UDP(User Datagram Protocol) port of the calling terminal; and selecting one call agent among a
6 plurality of the call agents constituting a local network, storing an address of that selected call agent
7 in the generated session, then transmitting a session initiation protocol message to the selected call
8 agent.

1 10. The method according to claim 7, wherein the network address translation block in the
2 receiving step, further performs the step of deleting session in which all information for a relevant
3 call is stored when the relevant call is completed.

1 11. The method according to claim 7, wherein the network address translation block at the
2 receiving step, performs the step of selecting a new call agent for uniform distribution of a call when
3 an “INVITE” message of a second call is received after a first call is terminated, processing a
4 relevant call by transmitting the “INVITE” message to the newly selected call agent.

1 12. The method according to claim 7, with the storing of the communication path for the
2 specific call agent in session information of the relevant call after the step of receiving the call
3 establishment request message, extracting the public network address and storing the public network
4 address.

1 13. A method for receiving a call, at a called terminal, in a system for network address
2 translation and session management, the method comprising the steps of:

3 receiving, at a network address translation block provided between the called terminal and
4 call agents, a call establishment request message generated from a plurality of the call agents
5 connected through a local network, extracting a public network address from the received call
6 establishment request message, storing the public network address;

7 storing a communication path for a specific call agent among a plurality of the call agents in
8 session information of a relevant call; and

9 distributing traffic by transmitting a session initiation protocol message transmitted from the
10 specific call agent, to a selected calling terminal only, using information stored in a session of the
11 relevant call.

1 14. The method according to claim 13, wherein the calling terminal at the receiving step,
2 transmits and receives a session initiation protocol message only through different one call agent
3 among a plurality of the call agents.

1 15. The method according to claim 13, wherein the network address translation block at the
2 receiving step, performs the step of generating session for a relevant call using a "CallID" when an
3 "INVITE" message for initiating a terminated session initiation protocol call is received from call
4 agents in a terminating side;

5 changing a local private network address of a "Via" field and a "Contact" field within the
6 "INVITE" message, into a public network address, transmitting the "INVITE" message to the
7 terminal of the public network; and

8 storing, in a relevant session, address information of a call agent which transmits the local
9 private network address and the "INVITE" message.

1 16. The method according to claim 13, wherein the network address translation block at the
2 receiving step, performs the step of, when a call agent receives a "BYE" message transmitted for
3 releasing a call after a call is completed, changing a local private network address within the "BYE"
4 message, into a public network address, transmitting the public network address to the called
5 terminal.

1 17. The method according to claim 13, wherein the network address translation block at the
2 receiving step, further performs the step of deleting the session in which all information for a
3 relevant call is stored when the relevant call is completed.

1 18. The method according to claim 13, with the storing of the communication path for the
2 specific call agent in session information of the relevant call after the step of receiving the call
3 establishment request message, extracting the public network address and storing the public network
4 address.

1 19. A computer-readable medium having computer-executable instructions for performing
2 a method, comprising:

3 receiving, at a network address translation block provided between a calling terminal and call
4 agents, a call establishment request message generated from the calling terminal connected to an
5 external network, extracting a public network address from the received call establishment request
6 message, storing the public network address;

7 selecting a specific call agent among a plurality of the call agents, storing a communication
8 path for the specific call agent in session information of a relevant call; and

9 distributing traffic by transmitting a session initiation protocol message transmitted from the
10 calling terminal, to a selected call agent only, using information stored in a session of the relevant
11 call.